

**EDITORIAL****TRAINING COURSE ON DELIVERY CARE AND NEONATAL CARE IN RURAL HOSPITALS, GEZIRA STATE, SUDAN****Mohamed Elsanousi<sup>1</sup>, Omer A. Mirghani<sup>1</sup>, Mohamed A. Sid Ahmed<sup>2</sup>, Zahra Bashir<sup>3</sup>**

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**Abstract:**

This paper describes a training course for medical officers working in the rural hospitals in Gezira State to achieve a general objective; safe management of obstetric emergencies, miscarriage and the newborn. The description of the course includes; an introduction, the specific learning objectives, a detailed plan of work, instructional methods, resources, the course timetable, evaluation methods, description of the logbook and the feedback questionnaire. This article also includes descriptions of our experience in three rounds during which 43 medical officers were trained.

**الخلاصة :**

هذه الورقة تعرض مقرر تدريب الأطباء العموميين العاملين بالمستشفيات الريفية بولاية الجزيرة بهدف تقديم خدمات صحية آمنة للأمهات والولدان، متضمنة الولادة الطبيعية والعملية القيصرية وعلاج الإجهاض. تحتوي الورقة على مقدمة ومبررات هذا المقرر بالإضافة إلى الأهداف التعليمية الخاصة، وصف كامل ومفصل لخطة العمل، الجدول الزمني الأسبوعي والطرق التعليمية والموارد والمصادر وصف تقييم المقرر وصف سجل خبرات المتدربين واستبيان تقييم المقرر من خلال رأي المتدربين تصف هذه الورقة أيضاً تطبيق التجربة في ثلاث دورات تدريبية تدرب من خلالها 43 طبيباً عمومياً يعملون في المستشفيات الريفية في مختلف أنحاء ولاية الجزيرة.

**Introduction:**

The Sudan is a country with high maternal and perinatal morbidity and mortality. According to the safe motherhood survey 1999 the maternal mortality in Sudan was 509<sup>1</sup>. A new estimation (2005) is 590<sup>2</sup>. The life time chance of death from a maternal cause in Africa is 1 in 16<sup>3</sup> and in Sudan is 1 in 30<sup>2</sup>. Efforts must be paid to improve the existing situation. The rural hospital is the main support to the maternal service : Antenatal and delivery care;. The antenatal ( ANC) is an

## **EDITORIAL**

essential intervention without any dispute . The ANC management is so far satisfactory. It must be strengthened in relation to supervision and channels of reference. It is the opinion of the Reproductive Health Council of the Federal Ministry of Health that delivery care at the time being needs to be supported at all levels; district rural hospital, referral and teaching hospital. Inefficient and poor delivery care affects adversely the role of ANC in reducing maternal morbidity and mortality. Areas where the delivery care has not improved significantly like Sub-Saharan in Africa are still suffering the highest maternal mortality.<sup>4,5</sup> Delivery care improvement must be considered at all levels; village midwives , rural hospitals and tertiary hospitals. For rural hospital to be effective in delivery care the following must be offered :-

- (1) Well –equipped labour ward.
- (2) Well equipped theatre.
- (3) Safe general anesthesia.
- (4) Facilities for blood transfusion.
- (5) Trained medical officers.

The objective of this paper is to present a tested course on delivery and neonatal care that can be implemented for training of medical officer in rural hospitals.

This course is meant to train medical officers working in rural hospitals to carry on safe normal and operative deliveries. To satisfy this general objective the specific learning objectives of this training course include the ability of trainees to :- conduct vaginal delivery safely, anticipate and diagnose abnormal labor, list the common indications of caesarian section (C/S), perform safe C/S, observe and manage the patient before, during , and 24 hours after C/S ,perform safe ventouse delivery, list the complications of C/S, perform manual removal of the placenta, perform safely evacuation operation for inevitable and incomplete abortion, manage safely antepartum hemorrhage postpartum hemorrhage and eclampsia, perform essential care of newborn, conduct sterilization of instruments and linen, supervise the anaesthetic assistant, perform blood grouping , cross matching , extraction , storage and transfusion, list indications of referring patients, perform procedures necessary for safety of patients during transfer, and to outline the health area system.

### **Plan of work :-**

The course starts by introduction in the presence of all course tutors. Participants introduce themselves. The rationales and justifications of the course are explained. There is special emphasis to the objectives of the course. The course booklet , timetable and handouts are distributed. The session also includes a video tape show about caesarean section. A tour in the periphery of the hospital will introduce trainees to the different wards and departments.

*Trainees will be distributed in five groups (1,2,3,4,5) according to the alphabetical order of their names.* The groups rotate to cover the following activities: (1) caesarian section operations ; (2) evacuation operations , (3) labor ward work , (4) postnatal ward activities and (5) neonatal care.

One group will be doing one activity at a time so as to maximize the trainees benefits. This rotation is extremely tight.

The activity of caesarean section is covered through the operative theatre session. In this session the medical officers attend a long operative list. They see demonstration of C/S operation done by an obstetrician in which they act as assistant, then they will do C/S assisted by the consultant specialist, then they will do by themselves C/S operations. This activity includes; supervision of sterilization, supervision of anesthesia, proper scrubbing, dressing and using gloves, conduct of safe surgery, care of patients preoperatively, intraoperatively and for 24 hours after recovery from anesthesia, registration and description of the operation in the operation sheets ,write treatment sheets, checking patients before leaving the theatre and ward check – up after the end of the theatre.

Trainees attend a minor theatre session. They see a demonstration of a proper evacuation operation , then they perform by themselves while being assisted by the consultant. Then perform evacuation operations by themselves. They finish this work by registration and writing the operative and post operative management.

The labour ward work is a 24 hour residence in the labour ward to work in harmony with the working staff (Drs, registrars, midwives,.....) under the supervision of the specialist on duty. Trainees conduct safe

## **EDITORIAL**

vaginal deliveries using a partogram. This activity includes: diagnosis ,handling, management, conduct and diagnose normal and abnormal labour; preparation of patients for C/S, immediate post-natal care and follow – up; discharge from the labour ward.

Working in the post-operative ward includes : history of ( vaginal bleeding , pain, dyspnea, cough, vomiting, abdominal, distension, calf swelling and pain, wound discharge, and lactation difficulties), examination of: (pulse , blood pressure, temperature, systems, abdominal palpation, bowel sounds, wound care, inspection and palpation, vaginal inspection, lower limbs, investigations , filling follow – up charts and checking treatment charts.

Under the supervision of the neonatologist trainees will see, examine, evaluate and manage neonates in the labour ward and in the postnatal wards. This includes ;calculation of Apgar's score at 1 and 5 minutes, weighting neonates, taking rectal temperature, selection of risky neonates (premature, of diabetic mother, congenital malformation, respiratory distress syndrome and miconium aspiration) ,resuscitation , suction, oxygen administration , cardiac massage and breast feeding.

### **Implementation: -**

This course is offered twice a year .It is coordinated by the Reproductive Health Directorate , Gezira State Ministry of Health , and Educational Development and Research Centre , Faculty of Medicine University of Gezira.In each round (15) medical officers working in Rural Hospitals are selected and informed early enough to arrange themselves to attend the course, which is implemented in Wad Madani Teaching Hospital for Obs &Gyn .The course duration is two weeks.

The instructional methods consider adult type of education and they include : practical in the labour ward, practical in the theatre, lecture , tutorials , discussion , assignments, video – show ,demonstrations ,observations, home work and practical neonatal care.

Handouts of the course are prepared by expert tutors to cover the following topics : Management of labour, sterilization , C/S, anesthesia ,neonatal care, breast feeding, indications of referrals, safe patient transfer, safe surgery , safe blood transfusion, manual removal of the placentas, antepartum hemorrhage , postpartum hemorrhage ,eclampsia maternal mortality and MCH care.

Trainees attend two hospital discharge clinic sessions and discuss the audit of patients managed during their stay.

The human resources needed include; Obstetricians and Gynecologists , Anesthetist, Theatre Attendants, Midwives , Maternal and Childhood Health (MCH)Specialists, Neonatologists and Pathologists.

The materials of the course include ; accommodation, transportation ,equipped labour ward, minor theatre , major theatre and a tutorial room for 15 persons with audiovisual aids.

Evaluation of the course includes trainees performance assessment and programme evaluation. Trainees performance is assessed through course logbook, mastery test by direct observation of the trainees performing the activity in front of the tutors ; and in addition to the supervisors reports.

The course logbook is designed to recode and assess student involvement in the course activities in three levels; observed, performed with assistance and performed unassisted. It consist of five sections one for each of the 5 rotations. They cover the following areas :-

Caesarean section operations , evacuation operations , normal vaginal deliveries , abnormal labour, postnatal care, post operative care and neonatal management.

The programme evaluated through trainees achievement, supervisors satisfaction and objectively by the course feedback that consider the opinion of trainees.

The course feedback is designed to obtain the trainees opinion on; degree of clearness and achievement of the objectives, coverage of the timetable , usefulness of the instructional methods used in the course, organization of the course, punctuality of tutors , degree of relevance to their work in rural hospitals ,the duration of the course, overall assessment, constraints, problems and suggestions for improvement in the future applications.

This course has been implemented in three rounds so far. The total number of trainees were 43. They were medical officers working in the rural hospitals in Gezira State, namely: Alhosh, Almasalamia, Alxi, Abugota, Almadaina Arab, Alhag Abdalla, Agar 27, Elgamosi, Altikna, Algenaid, Alhilalia, wad rawa, Om

## **EDITORIAL**

Elghra, Om Shaningh, Almihereeba, Tabat , Alhadad , Alhadaheed, Alfiag Albasheer, Dalwat, Alsherafa, Wad Adam and Wad Elnora.

The course duration was two weeks with a total stay in hospital of 138 hours for trainees each medical officers were trained by being directly involved in the management of patients in the labour room , C/S theatre, evacuation theatre and postnatal wards. Each candidate performed 2-4 C/S and 4-6 evacuation operations . They saw and manage neonates. They participated actively in the tutorial sessions. 10 obstetricians, a Pediatrician, a Pathologist and the Director of the Reproductive Health Directorate Ministry of Health, Gezira State participated as trainers.

Candidates were evaluated by direct observation and revision of the trainees logbook ; the opinion of the supervisors was obtained formally. They were satisfied by the trainees competences. The coverage of the objectives was almost 100%. From the trainees point of view the organization was excellent, the course objectives were very clear, the timetable was covered by about 80-100 percent, objectives were attained by around 90%, the instructional methods were useful, the tutors were punctual, the organization was very good to excellent, the duration of the course was enough and overall the course was very useful. They suggested more sessions on anaesthesia, to cover specially spinal anaesthesia theoretically and practically.

Cost of the course per participant is 400\$ , this including, accommodation , transportation , catering and tutoring.

This course is an approach to successful interaction between MCH as a component of PHC and hospital services, and can much benefit from experience of others<sup>(12)</sup>.

## **Acknowledgement:**

The authors are expressing their thanks to the administration and all staff of the Wad Medani Teaching Hospital for Obstetrics and Gynecology ; Reproductive Health Directorate – MOH , Gezira State and the EDC – Faculty of Medicine University of Gezira.

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## **Appendix : Time tables**

### **First week:**

GROUPS	1	2	3	4	5
Friday 7-9 pm	Introduction of the course + video show About C/S / Course Coordinators				
Sat. 7.30-2pm	C/S Dr.Saad	Evacuation Dr. Ali	24h . Labour w.	24h . Labour w.	PN ward+ N. care
5 – 7 pm	Lecture / discussion :- Blood transfusion -/ professor Mohamedani				
Sun 7:30- 2pm	24h.Labour w.	C/S Dr. Mustafa Dr. Hassan	Evacuation . Dr. A/Rahman	PNW + N. care	24h. Labour w.

**EDITORIAL**

5 – 7 pm	Lecture / discussion :- Management of Labour / Dr. Mohamed Elsanousi				
Mon. 7:30- 2pm	PN. Ward+ N. care	24h. Labour w.	24h. Labour w.	Evacuation Dr. Mustafa Dr. Yassir	C/S prof. Omer
5 – 7 pm	Lecture / discussion :- Obstetrical operation - / professor . Omer Mirghani				
Tue. 7:30- 2pm	Evacuation Dr. Hassan	P.N .W + N . care	C/S Dr. Elsanousi	24h. Labour w.	24h . Labour w.
5-7	Lecture / discussion:- MCH (therole of R. Hop) - / Dr. Wathig . Dr. Mohammed Sister Zahara				
Wed. 7:30-2pm	24h. Labour w.	24h. Labour w	PNW + N. care	C/S Dr. Ali Dr. Yassir	Evacuation Dr. Saad
Thu. 7:30-2pm	Discharge clinic				

**Second week:**

GROUPS	1	2	3	4	5
Sat. 7.30am-2pm	C/S Dr.Saad	Evacuation Dr. Ali	24h . Labour w.	24h . Labour w.	PN word+ N. care
5 – 7 pm	Seminar Maternal Mortality / Dr. Mohamed Elsanousi				
Sun. 7:30am-2pm	24h.Labour w.	C/S Dr. Mustafa Dr. Hassan	Evacuation Dr. A/Rahman	PNW + N. care	24h. Labour w.
5 – 7 pm	Lecture / discussion :- Obstetric anaesthesia / Dr. Kamal Guma				
Mon 7:30am-2pm	PN. Ward+ N. care	24h. Labour w.	24h. Labour w.	Evacuation Dr Mustafa Dr. Yassir	C/S prof. Omer
5 – 7 pm	Lecture / discussion :- Neonatal care - / professor . Ali Babiker				
Tue. 7:30am-2pm	Evacuation Dr. Hassan	P.N .W + N . care	C/S Dr. Elsanousi	24h. Labour w.	24h . Labour w.
5-7	Lecture / discussion:- Breast Feeding / Dr. Huda Haroun				
Wed. 7:30-2pm	24h. Labour w.	24h. Labour w	PNW + N. care	C/S Dr. Ali Dr. Yassir	Evacuation Dr. Saad
Thu. 7:30-2pm	Discharge clinic - logbooks feedback - distribution of certificates - closing ceremony				